High Mountain Dams in Bonneville Unit,
Duck Lake Dam (North Fork No. 6 Lake Dam)
Wasatch National Forest
3.5 miles west of Trial Lake Campground
Kamas vicinity
Summit County
Utah

HAER No. UT-41-C

HAER
UTAH,
22-KAMV,
1-C-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Rocky Mountain Regional Office
National Park Service
U.S. Department of the Interior
P.O. Box 25287
Denver, Colorado 80537

HAER
UTAH
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HISTORIC AMERICAN ENGINEERING RECORD

High Mountain Dams in Bonneville Unit, Duck Lake Dam
(North Fork No. 6 Lake Dam)

HAER No. UT-41-C

Location:	6.5 miles north of Trial Lake Campground, Wasatch National Forest Kamas vicinity, Summit County, Utah UTM: 12.498580.4502420 Quad: Erickson Basin
Date of Construction:	1935
Builder/Designer:	Timpanogos Irrigation Company, Heber City, Utah
Present Owner:	Union Reservoir Company, Heber City, Utah 84032
Original Use:	Dam
Present Use:	Dam
Significance:	Typical earth-fill structures, the dams on Duck and Marjorie lakes were constructed using similar specifications, including the stipulation for "carefully hand-laid rock faces." That are representative of a more aesthetic dam engineering philosophy which resulted from National Forest Service multi-use goals. Duck and Marjorie lakes are significant as the last reservoirs created on the Provo River drainage prior to Federal involvement in Utah's irrigation dam construction.
Inventoried by:	Clayton Fraser and James Jurale Fraserdesign Loveland, Colorado October 18, 1985

HISTORICAL INFORMATION

In September 1914, the Timpanogos Irrigation Company of Heber City, Utah, filed an application with the State Engineer to impound water for irrigation on Duck Lake, an irregularly elongated body of water that abuts a talus-sloped mountainside. The application was soon approved, but construction of the retention structure did not commence for several years. In 1935, the irrigation company built this 560-foot earth-fill dam over the lake outlet and a similar one on Marjorie Lake. The dam is composed of a clay center core with compacted earth over and hand-placed stone riprap on the sloped faces. The outlet works consist of an 18" diameter reinforced concrete pipe with an inclined 28"-wide Hardesty cast iron slide headgate. A concrete spillway with a two-foot freeboard controls lake overflow. It is proposed that the dam be lowered, breached and reconfigured to return the lake to its natural level.

ARCHITECTURAL INFORMATION

Dam length:	560 feet
Dam height:	19 feet
Dam width:	11 feet
Construct:	Earth fill dam with rock riprap facing and shore protection
Lake size:	32.6 acres; 353 acre-foot maximum capacity; 16 vertical feet maximum drawdown
Outlet:	18" pipe with inclined gate; concrete spillway

BIOGRAPHICAL INFORMATION

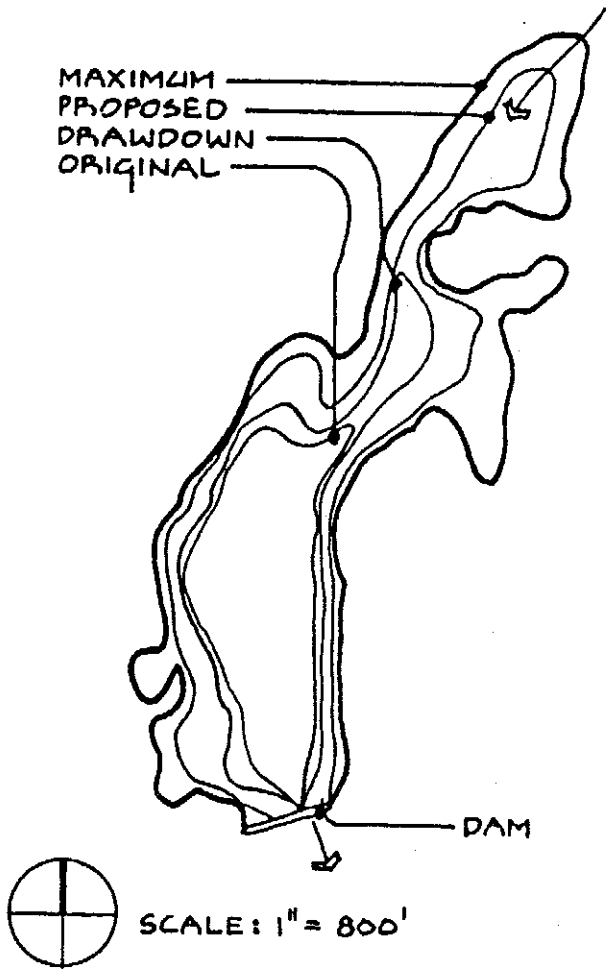
"Preliminary Engineering Report: Stabilization of High Mountain Lakes, Provo River Drainage," National Park Service Report, 1969, page 15.

Specification for Dam and Spillway for North Fork No. 6 under application No. 2077-D, A-12226 (2077-F), Timpanogos Irrigation Company, 8/1934, Timpanogos Irrigation Company Reservoir File, North Fork No. 6 (D-3), W-CNFSO, Federal Building, Salt Lake City, Utah.

Duck Lake Reservoir File #16-C, Kamas Ranger Station, Wasatch National Forest, Kamas, Utah.

Field inspection by Clayton Fraser, July 24, 1985.

For additional information, see Irrigation Canals in the Uinta Basin, HAER No. UT-30.


MAXIMUM
PROPOSED
DRAWDOWN
ORIGINAL
DAM
SCALE: 1" = 800'